

to a fundamental question that randomized trials of CT screening are designed to test: how often does CT screening fail to intercept lung cancer before it progresses and causes death? Their assumption appears to be "never." Our study provides empirical evidence to the contrary.

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1. Bach PB, Kattan MW, Thornquist MD, et al. Variations in lung cancer risk among smokers. *J Natl Cancer Inst*. 2003;95(6):470-478.

2. Bach PB, Elkin EB, Pastorino U, et al. Benchmarking lung cancer mortality rates in current and former smokers. *Chest*. 2004;126(6):1742-1749.

3. Bach PB, Begg CB. Further validation of lung cancer mortality model [published online February 3, 2006]. *Chest*. <http://www.chestjournal.org/cgi/eletters/126/6/1742>. Access verified June 27, 2007.

4. Omenn GS, Goodman GE, Thornquist MD, et al. Effects of a combination of beta carotene and vitamin A on lung cancer and cardiovascular disease. *N Engl J Med*. 1996;334(18):1150-1155.

RESEARCH LETTER

Injuries and Deaths From Landmines and Unexploded Ordnance in Afghanistan, 2002-2006

To the Editor: Afghanistan is among the countries most affected by landmines and unexploded ordnance.^{1,2} Injury data from 1997-2002 showed an increasing burden of injuries due to unexploded ordnance and a high proportion of children among those injured.^{2,3} This study examined trends of injuries due to landmines and unexploded ordnance in Afghanistan from 2002 to 2006.

Methods. Data on landmine and unexploded ordnance injuries in Afghanistan from January 2002 through December 2006 were obtained from the International Committee of the Red Cross. These data were collected from 490 reporting health facilities and from a network of volunteers in a community-based First Aid program sup-

ported by the Afghan Red Crescent Society. Trained staff in the health facilities and community interviewed the injured person or the family of a person who had died. The Information Management System for Mine Action⁴ form, which conforms to the standard questionnaire recommended by the World Health Organization,⁵ was used for data collection.

Linear trends were assessed with χ^2 tests. *P* values <.05 were considered statistically significant. Statistical analyses were performed using Epi Info (version 3.4, Centers for Disease Control and Prevention, Atlanta, Georgia) and JMP (release 5.0, SAS Institute Inc, Cary, North Carolina). The Institutional Review Board of the Centers for Disease Control and Prevention exempted this study from review.

Results. There was information on 5471 individuals injured or killed by landmines or unexploded ordnance. Overall, 91.3% of reported injuries were among males, and 47.2% were among children younger than 18 years (TABLE). Seventeen percent of those injured died as a result of the accident. Unexploded ordnance caused more injuries than did landmines (Table). Most adult injuries (55.8%) were due to landmines, whereas for children the majority (65.4%) were from unexploded ordnance. Children were more likely to sustain upper limb amputation (24.3%) compared with adults (14.8%), whereas a higher proportion of injured adults (25.5%) than children (11.5%) sustained lower limb amputation.

The proportion of injuries due to unexploded ordnance increased from 48.4% in 2002 to 58.8% in 2006 (*P* < .001), accounting for 70.6% of all injuries in children and 41.9% in adults in 2006. The proportion of injuries sustained while tampering increased from 8.3% in 2002 to 25.6% in 2006 (*P* < .001). Of injuries sustained while tampering, 89.2% were caused by unexploded ordnance.

Comment. Landmines and unexploded ordnance continue to result in death and injury in children and adults in high numbers in Afghanistan. This is in contrast with other affected territories such as Chechnya, where the number of injured subsided rapidly after the end of active fighting.⁶

Persistent issues compared with previous studies² include a high percentage of children among those injured and a high percentage of injuries due to unexploded ordnance in children. Amputation patterns suggest that children were more likely to handle an explosive device, whereas adults were more likely to step on it.

Limitations of this study must be considered. The surveillance system is believed to include most facilities likely to see injuries from landmines and unexploded ordnance,² but its sensitivity is unknown, so these results may be underestimates. These injuries may not be representative of all relevant injuries. Potentially poor training of interviewers could have introduced a bias. Nevertheless, these findings suggest that clearance and risk education activities fall short

of achieving their goal and need to be substantially improved or expanded.

Especially concerning is the increasing proportion of injuries due to unexploded ordnance. Because these devices are much more visible than landmines and contaminated areas are much cheaper to clear than minefields, these injuries are preventable. Because of the

increase in injuries sustained while tampering with unexploded ordnance, studies should determine whether people take these risks due to economic necessity (eg, collecting scrap metal or clearing fields for farming), curiosity, lack of knowledge, or other factors. This information is necessary to design successful injury prevention programs.

Table. Injuries Due to Landmines and Unexploded Ordnance in Afghanistan, January 2002 Through December 2006, by Year (N = 5471)^a

	Injuries, No. (%)					Total (N=5471)
	2002 (n = 1706)	2003 (n = 1049)	2004 (n = 973)	2005 (n = 947)	2006 (n = 796)	
Sex						
Male	1573 (92.2)	952 (90.9)	882 (90.7)	868 (91.7)	719 (90.3)	4996 (91.3)
Female	133 (7.8)	95 (9.1)	91 (9.4)	79 (8.3)	77 (9.7)	475 (8.7)
Age group						
Children (<18 y)	767 (45.0)	455 (43.4)	470 (48.3)	419 (44.3)	469 (58.9)	2580 (47.2)
Adults (≥18 y)	939 (55.0)	594 (56.6)	503 (51.7)	527 (55.7)	327 (41.1)	2891 (52.8)
Device causing injury						
Landmines	757 (44.4)	500 (47.7)	382 (39.3)	390 (41.2)	285 (35.8)	2314 (42.3)
Children ^b	209 (27.3)	127 (27.9)	129 (27.5)	117 (27.9)	118 (25.2)	700 (27.1)
Adults ^c	548 (58.4)	373 (62.8)	253 (50.3)	272 (51.6)	167 (51.1)	1614 (55.8)
Unexploded ordnance	825 (48.4)	451 (43.0)	502 (51.6)	503 (53.1)	468 (58.8)	2749 (50.3)
Children ^b	502 (65.5)	288 (63.3)	295 (62.8)	271 (64.7)	331 (70.6)	1687 (65.4)
Adults ^c	323 (34.4)	163 (27.4)	207 (41.2)	232 (44.0)	137 (41.9)	1062 (36.8)
Unknown device	124 (7.3)	98 (9.3)	89 (9.2)	54 (5.7)	43 (5.4)	408 (7.5)
Activity at the time of injury						
Tampering with explosive	141 (8.3)	208 (19.8)	217 (22.3)	192 (20.3)	204 (25.6)	962 (17.6)
Children ^b	87 (11.3)	139 (30.5)	126 (26.8)	100 (23.9)	128 (27.3)	580 (22.5)
Adults ^c	54 (5.8)	69 (11.6)	91 (18.1)	92 (17.5)	76 (23.2)	382 (13.2)
Playing/recreation	216 (12.7)	104 (9.9)	118 (12.1)	111 (11.7)	90 (11.3)	639 (11.7)
Children ^b	179 (23.3)	86 (18.9)	94 (20.0)	89 (21.2)	88 (18.8)	536 (20.8)
Adults ^c	37 (3.9)	18 (3.0)	24 (4.8)	22 (4.2)	2 (0.6)	103 (3.6)
Traveling	258 (15.1)	182 (17.3)	83 (8.5)	98 (10.4)	100 (12.6)	721 (13.2)
Children ^b	63 (8.2)	31 (6.8)	14 (3.0)	32 (7.6)	32 (6.8)	172 (6.7)
Adults ^c	195 (20.8)	151 (25.4)	69 (13.7)	66 (12.5)	68 (20.8)	549 (19.0)
Tending animals	298 (17.5)	140 (13.3)	200 (20.6)	190 (20.1)	165 (20.7)	993 (18.2)
Children ^b	200 (26.1)	85 (18.7)	117 (24.9)	113 (26.7)	117 (25.0)	631 (24.5)
Adults ^c	98 (10.4)	55 (9.3)	83 (16.5)	77 (14.6)	48 (14.7)	361 (12.5)
Collecting wood/food/water	171 (10.0)	94 (9.0)	73 (7.5)	89 (9.4)	70 (8.8)	497 (9.1)
Children ^b	75 (9.8)	33 (7.3)	33 (7.0)	37 (8.8)	50 (10.7)	228 (8.8)
Adults ^c	96 (10.2)	61 (10.3)	40 (8.0)	52 (9.9)	20 (6.1)	269 (9.3)
Farming	203 (11.9)	96 (9.2)	86 (8.8)	60 (6.3)	42 (5.3)	487 (8.9)
Children ^b	44 (5.7)	21 (4.6)	31 (6.6)	8 (1.9)	9 (1.9)	113 (4.4)
Adults ^c	159 (16.9)	75 (12.6)	55 (10.9)	52 (9.9)	33 (10.1)	374 (12.9)
Military activity	125 (7.3)	49 (4.7)	41 (4.2)	51 (5.4)	34 (4.3)	300 (5.5)
Children ^b	2 (0.3)	1 (0.2)	0 (0)	0 (0)	0 (0)	3 (0.1)
Adults ^c	123 (13.1)	48 (8.1)	41 (8.2)	51 (9.7)	34 (10.4)	297 (10.3)
Passing/standing nearby	81 (4.8)	49 (4.7)	55 (5.7)	33 (3.5)	51 (6.4)	269 (4.9)
Children ^b	39 (5.1)	21 (4.6)	25 (5.3)	16 (3.8)	32 (6.8)	133 (5.2)
Adults ^c	42 (4.5)	28 (4.7)	30 (6.0)	17 (3.2)	19 (5.8)	136 (4.7)
Other/unknown activity	213 (12.5)	127 (12.1)	100 (10.3)	123 (13.0)	40 (5.0)	603 (11.0)
Children ^b	78 (10.2)	38 (8.4)	30 (6.4)	25 (6.0)	13 (2.8)	184 (7.1)
Adults ^c	135 (14.4)	89 (15.0)	70 (13.9)	98 (18.6)	27 (8.3)	419 (14.5)

^aPercentages may not sum to 100% due to rounding.

^bPercentage is for that category among all injured children.

^cPercentage is for that category among all injured adults.

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Drafting the manuscript: Bilukha, Brennan, Anderson.

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1. International Campaign to Ban Landmines. *Landmine Monitor Report 2005: Toward a Mine-Free World*. Ottawa, Ontario: Mine Action Canada; 2005.

2. Bilukha OO, Brennan M, Woodruff B. Death and injury from landmines and unexploded ordnance in Afghanistan. *JAMA*. 2003;290(5):650-653.

3. Bilukha OO, Brennan M. Injuries and deaths caused by unexploded ordnance

in Afghanistan: review of surveillance data, 1997-2002. *BMJ*. 2005;330(7483):127-128.

4. Geneva International Centre for Humanitarian Demining. Information Management System for Mine Action. <http://www.gichd.ch/1225.0.html>. Accessed May 7, 2007.

5. World Health Organization. *Guidance for Surveillance of Injuries Due to Landmines and Unexploded Ordnance*. Geneva, Switzerland: World Health Organization; 2000.

6. Bilukha OO, Tsitsaev Z, Ibragimov R, Anderson M, Brennan M, Murtazaeva E. Epidemiology of injuries and deaths from landmines and unexploded ordnance in Chechnya, 1994 through 2005. *JAMA*. 2006;296(5):516-518.

CORRECTIONS

Incorrect Figure Legend: In the Medical News & Perspectives article entitled "JCAHO Tweaks Emergency Departments' Pneumonia Treatment Standards" published in the April 25, 2007, issue of *JAMA* (2007;297[16]:1758-1759), the figure legend was incorrect. On page 1758, the figure legend should be "An emergency department radiograph shows normal lungs, but a subsequent computed tomography scan reveals a right lower lobe consolidation (arrowhead) consistent with pneumonia."

Allocation of Lung Cancer Deaths by Year: In the Original Contribution entitled "Computed Tomography Screening and Lung Cancer Outcomes" published in the March 7, 2007, issue of *JAMA* (2007;297[9]:953-961), some lung cancer deaths were allocated to the incorrect year of occurrence in Table 2. On page 958, in Table 2, last column, the numbers of observed lung cancer deaths for the Istituto Tumori should be 0 for 1 year, 1 for 2 years, 1 for 3 years, 5 for 4 years, 0 for 5 years, and 0 for 6 years. The respective numbers of observed lung cancer deaths for the Mayo Clinic are 0, 1, 6, 5, 4, and 3; and the numbers are 1, 6, 5, 1, 0, and 0 for the Moffitt Cancer Center.

It is impossible to convey to you the picture of human misery continually before my eye. . . . While I amputate one man's thigh, there lay at one time thirteen, all beseeching to be taken next. . . . It was a strange thing to feel my clothes stiff with blood, and my arms powerless with the exertion of using the knife! . . . The view of the field, the gallant sorties, the charges, the individual instances of enterprise and valour recalled to me the sense the world has of victory and Waterloo. But this is transient. A gloomy uncomfortable view of human nature is the inevitable consequence of looking upon the whole as I did—as I was forced to do.

—Sir Charles Bell (1774-1842)